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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/836,931	04/17/2001	Dean R.E. Long	SUN1P800/P5254	9076

22434 7590 01/19/2005

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EXAMINER

VO, LILIAN

ART UNIT	PAPER NUMBER
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2127

DATE MAILED: 01/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/836,931	Applicant(s) LONG ET AL.	
	Examiner Lilian Vo	Art Unit 2127	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1 – 9 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 – 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Schmidt (US 6,523,059).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

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4. Regarding **claim 1**, Schmidt discloses a method for requesting a consistent state in a computing environment using a first thread, the computing environment including multiple threads, the multiple threads including the first thread (col. 3, lines 21 – 27), comprising:

acquiring a consistent state lock using the first thread (col. 3, lines 21 – 27, col. 10, lines 19 - 34);

identifying substantially all threads that are inconsistent, the inconsistent threads being included in the multiple threads (col. 10, lines 19 – 45, col. 11, lines 6 – 15, col. 13, lines 17 – 29, figs 7A);

altering the state of the substantially all threads that are inconsistent to a consistent state (col. 10, lines 19 – 45, col. 11, lines 35 – 53, col. 13, lines 30 – 32 and figs. 7B);

notifying the first thread when the state of the substantially all threads that are inconsistent have been altered to be consistent (col. 10, lines 19 – 47, 58 – 64, col. 13, lines 30 – 37 and fig. 6); and

releasing the consistent state lock using the first thread (col. 10, lines 19 – 47, col. 13, lines 30 - 39).

5. Regarding **claim 2**, Schmidt discloses a method as recited in claim 1 further comprising:

performing a garbage collection after releasing the consistent state lock using the first thread (col. 16, lines 28 – 32, 44 – 46, 51 - 53).

6. Regarding **claim 3**, Schmidt discloses a method as recited in claim 2 further comprising:

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notifying the substantially all threads that have been altered to be consistent that the garbage collection has been performed (col. 8, lines 1 – 23, col. 13, lines 30 – 34).

7. **Claims 4 – 9** are rejected on the same ground as stated in claims 1 – 3 above.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeffords et al. (US 6,510,478, hereinafter Jeffords).

10. Regarding **claim 1**, Jeffords discloses a method for requesting a consistent state in a computing environment using a first process, the computing environment including multiple processes, the multiple processes including the first process (abstract), comprising:

acquiring a consistent state lock using the first process (abstract, col. 4, lines 35 – 39, col. 6, lines 36 – 39);

identifying substantially all processes that are inconsistent, the inconsistent processes being included in the multiple processes (col. 6, lines 55 – 57, col. 7, lines 8 – 21, fig. 5);

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altering the state of the substantially all processes that are inconsistent to a consistent state (col. 7, lines 8 – 21, fig. 5);

notifying the first process when the state of the substantially all processes that are inconsistent have been altered to be consistent (col. 7, lines 8 – 21, fig. 5); and

releasing the consistent state lock using the first process (col. 6, lines 46 – 47, col. 7, lines 8 – 21, fig. 5).

Jeffords however did not disclose the term thread as recited in claim 1 for requesting a consistent state. Instead Jeffords discloses multiple processes requesting a consistent state (abstract). It would have been obvious for one of an ordinary skill in the art, at the time the invention was made, to relate the term process with the term thread because a process can also be operated as a single thread.

11. **Claims 4 and 7** are rejected on the same ground as stated in claim 1 above.

12. Claims 2, 3, 5, 6, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeffords et al. (US 6,510,478, hereinafter Jeffords) in view of Toutonghi et al. (US 5,842,016, hereinafter Toutonghi).

13. Regarding **claim 2**, Jeffords did not disclose the additional limitation as claimed.

Nevertheless, Toutonghi discloses the step of:

performing a garbage collection after releasing the consistent state lock using the first thread (abstract, col. 1, lines 39 – 61, col. 2, lines 33 – 47, col. 4, lines 56 – 65).

It would have been obvious for one of an ordinary skill in the art, at the time the invention was made to incorporate Toutonghi's teaching to Jeffords to reclaim the memory of dead objects for reallocation usage (Toutonghi: col. 1, lines 39 – 46).

14. Regarding **claim 3**, Jeffords did not disclose the additional limitation as claimed.

Nevertheless, Toutonghi discloses the step of:

notifying the substantially all threads that have been altered to be consistent that the garbage collection has been performed (col. 2, lines 33 – 63, col. 4, lines 16 – 65).

It would have been obvious for one of an ordinary skill in the art, at the time the invention was made to incorporate Toutonghi's teaching to Jeffords to inform all the threads that the garbage collection operation has been performed so that threads can continue their execution.

15. **Claims 5, 6, 8 and 9** are rejected on the same ground as stated in claims 2 – 3 above.

Response to Arguments

16. Applicants' arguments filed on 9/17/04 have been fully considered but they are not persuasive for the reason set forth below.

17. Regarding applicants' argument that Schmidt fails to disclose the unique inventive step of altering the state of substantially all inconsistent threads (page 8, 1st paragraph), the examiner disagrees. The step of altering the state of all threads..." does not suggest/recite how the states

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are changed i.e., consecutively, individually, or all at once. Furthermore, it is unclear how all states of the threads can be changed “all at once” or “at the same time” when computer instructions are executing by the processor one instruction at a time. Therefore, claims 1 – 9 are remained rejected as being anticipated by Schmidt.

18. In response to applicants’ argument (page 8, 4th paragraph, lines 8 – 9) that the references fail to show certain features of applicants’ invention, it is noted that the features upon which applicant relies (i.e., altering the state of the all threads at the same time) are not recited in the rejected claim(s). On the other hand, it is unclear how all states of the threads can be changed “all at once” or “at the same time” when computer instructions are executing by the processor one instruction at a time.

Furthermore, applicants’ arguments (page 8, 4th paragraph) fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Conclusion

19. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lilian Vo whose telephone number is 571-272-3774. The examiner can normally be reached on Monday - Thursday, 7:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lilian Vo
Examiner
Art Unit 2127

lv
January 10, 2005

~~MENG-AI AN~~
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER